

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): An isolated nucleic acid comprising any one of SEQ ID NOs: 1-4, or a full length complement thereof, encoding a polypeptide with ABCA12 function.

Claim 2 (currently amended): An isolated nucleic acid comprising at least 1,000 consecutive nucleotides of a nucleotide sequence of any one of SEQ ID NOs: 1-4, or a full length complement thereof, encoding a polypeptide with ABCA12 function.

Claim 3 (currently amended): An isolated nucleic acid comprising a nucleic acid sequence that has at least 80% nucleotide identity with a nucleic acid comprising any one of SEQ ID NOs: 1-4, or a full length complement thereof, wherein a polypeptide encoded by said isolated nucleic acid or complement thereof binds ATP, comprises a transmembrane domain, is an ABCA member or a combination thereof, encoding a polypeptide with ABCA12 function.

Claim 4 (previously presented): The isolated nucleic acid according to claim 3, wherein the nucleic acid sequence has at least 85% nucleotide identity with the nucleic acid comprising any one of SEQ ID NOs: 1-4.

Claim 5 (currently amended): An isolated nucleic acid at least 1,000 nucleotides in length that hybridizes in 5X SSC at 60°C with a nucleic acid comprising any one of SEQ ID NOs: 1-4, or a full length complement thereof, encoding a polypeptide with ABCA12 function.

Claim 6 (canceled)

Claim 7 (currently amended): A nucleotide probe or primer specific for the ABCA12 gene, wherein the nucleotide probe or primer comprises no more than 50 ~~or fewer~~ consecutive nucleotides of a nucleotide sequence of any one of SEQ ID NOs: 1-4, or a full length complement thereof.

Claim 8 (previously presented): A nucleotide probe or primer specific for the ABCA12 gene, wherein the nucleotide probe or primer comprises a nucleotide sequence of any one of SEQ ID NOs: 7-38, or a full length complement thereof.

Claim 9 (original): The nucleotide probe or primer according to any of claim 7 or 8, wherein the nucleotide probe or primer comprises a marker compound.

Claims 10-11 (canceled)

Claim 12 (original): A kit for amplifying the nucleic acid according to claim 1, wherein the kit comprises: a) two nucleotide primers whose hybridization position is located respectively 5' and 3' of the region of the nucleic acid; and optionally, b) reagents necessary for an amplification reaction.

Claim 13 (currently amended): The kit according to claim 12, wherein the two nucleotide primers are selected from the group consisting of a) a nucleotide primer comprising no more than 50 or fewer consecutive nucleotides of a nucleotide sequence of any one of SEQ ID NOs: 1-4, or of a complementary nucleotide sequence, and b) a nucleotide primer comprising a nucleotide sequence of any one of SEQ ID NOs: 7-38, or a complementary sequence thereof.

Claims 14-15 (canceled)

Claim 16 (currently amended): A kit for detecting the nucleic acid according to claim 1, wherein the kit comprises a) ~~a nucleotide probe selected from the group consisting of 1) a nucleotide probe comprising 50 or fewer consecutive nucleotides of a nucleotide sequence of any one of SEQ ID NOs: 1-4, or a full length complement thereof; 2) a nucleotide primer as in claim 7; 3) or a nucleotide primer as in claim 8; and 4) a nucleotide probe comprising a nucleotide sequence of any one of SEQ ID NOs: 7-38, or a complementary nucleotide sequence thereof,~~ and optionally, b) reagents necessary for a hybridization reaction.

Claim 17 (original): The kit according to claim 16, wherein the probe is immobilized on a support.

Claim 18 (previously presented): A recombinant vector comprising the nucleic acid according to claim 1.

Claim 19 (original): The vector according to claim 18, wherein the vector is an adenovirus.

Claim 20 (original): A recombinant host cell comprising the recombinant vector according to claim 19.

Claim 21 (previously presented): An isolated recombinant host cell comprising the nucleic acid according claim 1.

Claim 22 (original): An isolated nucleic acid encoding a polypeptide comprising an amino acid sequence of any one of SEQ ID NO:5 or 6.

Claim 23 (original): A recombinant vector comprising the nucleic acid according to claim 22.

Claim 24 (previously presented): An isolated recombinant host cell comprising the nucleic acid according to claim 22.

Claim 25 (previously presented): An isolated recombinant host cell comprising the recombinant vector according to claim 23.

Claim 26-40 (canceled)

Claim 41 (previously presented): The isolated nucleic acid according to claim 3, wherein the nucleic acid sequence has at least 90% nucleotide identity with the nucleic acid comprising any one of SEQ ID NOs: 1-4.

Claim 42 (previously presented): The isolated nucleic acid according to claim 3, wherein the nucleic acid sequence has at least 95% nucleotide identity with the nucleic acid comprising any one of SEQ ID NOs: 1-4.

Claim 43 (previously presented): The isolated nucleic acid according to claim 3, wherein the nucleic acid sequence has at least 98% nucleotide identity with the nucleic acid comprising any one of SEQ ID NOs: 1-4.

Claims 44-46 (canceled)

Claim 47 (previously presented) The isolated nucleic acid according to claim 2, wherein the nucleic acid comprises at least 1,500 consecutive nucleotides.

Claims 48-50 (canceled)

Claim 51 (previously presented): The isolated nucleic acid according to claim 5, wherein the nucleic acid comprises at least 1,500 nucleotides.

Claim 52 (currently amended): The probe or primer according to claim 7, wherein the probe or primer comprises no more than 40 ~~or fewer~~ consecutive nucleotides.

Claim 53 (currently amended): The probe or primer according to claim 7, wherein the probe or primer comprises no more than 35 ~~or fewer~~ consecutive nucleotides.

Claim 54 (currently amended): The probe or primer according to claim 7, wherein the probe or primer comprises no more than 25 ~~or fewer~~ consecutive nucleotides.

Claim 55 (currently amended): The probe or primer according to claim 7, wherein the probe or primer comprises no more than 20 ~~or fewer~~ consecutive nucleotides.

Claim 56 (currently amended): The kit according to claim 13, wherein the primer of step (a) comprises no more than 40 ~~or fewer~~ consecutive nucleotides.

Claim 57 (currently amended): The kit according to claim 13, wherein the primer of step (a) comprises no more than 35 ~~or fewer~~ consecutive nucleotides.

Claim 58 (currently amended): The kit according to claim 13, wherein the primer of step (a) comprises no more than 25 ~~or fewer~~ consecutive nucleotides.

Claim 59 (currently amended): The kit according to claim 13, wherein the primer of step (a) comprises no more than 20 ~~or fewer~~ consecutive nucleotides.

Claim 60 (currently amended): The kit according to claim 16, wherein the probe of item (1) comprises no more than 40 ~~or fewer~~ consecutive nucleotides.

Claim 61 (currently amended): The kit according to claim 16, wherein the probe of item (1) comprises no more than 35 ~~or fewer~~ consecutive nucleotides.

Claim 62 (currently amended): The kit according to claim 16, wherein the probe of item (1) comprises no more than 25 ~~or fewer~~ consecutive nucleotides.

Claim 63 (currently amended): The kit according to claim 16, wherein the probe of item (1) comprises no more than 20 ~~or fewer~~ consecutive nucleotides.